WASHINGTON AGRICULTURAL CHEMICAL USAGE ASPARAGUS August 2005

NATIONAL AGRICULTURAL STATISTICS SERVICE

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ASPARAGUS

Results of the 2002 and 2004 Vegetable Chemical Use Surveys are presented in the following tables. The 2004 survey was designed to collect data on chemical applications made after the end of the 2003 harvest through completion of the 2004 harvest from a sampling of vegetable crops in Washington. Targeted crops for Washington included asparagus, processing carrots, processing sweet corn, dry onions, and processing green peas. The probability nature of the survey allowed for estimates that are representative of chemical use on all targeted vegetables in the state.

Survey results include estimates of total area treated, number of applications, rates per application, rates per crop year, and total pounds of chemicals applied. Data were summarized for the active ingredients of pesticides and other chemicals applied. Pesticide data were collected for specific formulations of active ingredients (trade name products) and then converted to active ingredient. Therefore, the estimates associated with a particular active ingredient may represent applications of several trade name products. Pesticide application rates also reflect partial coverage applications as a result of band, spot, and alternate row spraying techniques. Fertilizer information, which was not collected during the 2004 Vegetable Chemical Use Survey, was collected in the 2002 Vegetable Chemical Use Survey.

Three states were surveyed for **asparagus** in 2004: California, Michigan, and Washington. Surveyed acreage totaled 56,500 acres and Washington accounted for 27 percent of total surveyed acreage. All estimates are for asparagus of bearing age only.

Within the surveyed states, herbicides were applied to 69 percent of the planted acreage in the three surveyed states, with the greatest coverage in Michigan at 97 percent. Diuron was applied to 51 percent of the crop, and the next most used herbicide, Glyphosate, was applied to 38 percent. Insecticides were also applied to 69 percent of the asparagus acres. The lowest coverage was in California at 46 percent of the planted acres being treated. Michigan applied insecticides to the largest percentage of the crop, 95 percent. Overall, fungicides were used on 37 percent of the acreage, with the greatest coverage in Michigan at 78 percent of the crop. California had the largest acreage planted to asparagus and had a low fungicide use.

Asparagus: Fertilizer Applications, Planted Acreage & Percentage Receiving Applications, Program States & Total, 2002 & 2004

State	Planted Acreage		Area Receiving 1/					
			Nitrogen		Phosphate		Potash	
	2002	2004	2002	2004	2002	2004	2002	2004
	1,000 Acres		Percent					
California	36,500	26,000	60	-	26	-	12	-
Michigan	16,000	15,500	98	-	35	-	83	-
Washington	18,000	15,000	71	-	33	-	31	-
TOTAL	**70,500**	**56,500**	**72**	**-**	**30**	**-**	**33**	**-**

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.

- Fertilizer applications were not collected in the 2004 Vegetable Chemical Use Survey.

Asparagus: Pesticide Applications, Planted Acreage & Percentage Receiving Applications, Program States & Total, 2002 & 2004

State	Planted Acreage		Area Receiving 1/							
			Herbicides		Insecticides		Fungicides		Other Chemicals	
	2002	2004	2002	2004	2002	2004	2002	2004	2002	2004
	1,000 Acres		Percent							
California	36,500	26,000	42	45	68	46	9	5	**	**
Michigan	16,000	15,500	98	97	91	95	80	78	**	**
Washington	18,000	15,000	94	82	78	82	37	52	**	**
TOTAL	**70,500**	**56,500**	**68**	**69**	**76**	**69**	**32**	**37**	**	**

*1/ Refers to acres receiving one or more applications of a specific pesticide class. ** Insufficient reports to publish percent of area receiving.*

Asparagus: Agricultural Chemical Applications, Washington, 2002 & 2004 1/

Active Ingredient 2/	Area Applied 3/		Applications		Rate Per Application		Rate Per Crop Year		Total Applied	
	2002	2004	2002	2004	2002	2004	2002	2004	2002	2004
	Percent		Number		Pounds Per Acre				1,000 Pounds	
Herbicides										
Diuron	63	48	1.2	1.2	1.31	1.17	1.66	1.40	18.9	10.0
Glyphosate	17	11	1.0	1.1	0.65	0.69	0.68	0.76	2.0	1.2
Linuron	8	16	1.3	1.5	0.77	0.68	1.07	1.02	1.6	2.5
Trifluralin	56	52	1.0	1.0	1.07	1.03	1.10	1.05	11.1	8.3
Insecticides										
Disulfoton	65	58	1.3	1.3	1.01	1.05	1.34	1.38	15.5	11.9
Fungicides										
Mancozeb	37	41	1.4	1.2	1.50	1.39	2.19	1.70	14.6	10.4

1/ Planted acres in 2002 for Washington were 18,000, and planted acres in 2004 were 15,000. 2/ Insufficient reports to publish data for the following agricultural chemicals: 2002: Herbicides: 2,4-D, 2,4-D, Dimeth. salt, Bromacil, Clopyralid, Dicamba, Dicamba, Sodium Salt, Halosulfuron, Norflurazon, Picloram, Simazine, Sulfosate. Insecticides: Chlorpyrifos, Diazinon, Dimethoate, Malathion, Permethrin, Phosphamidon. Other Chemicals: Monocarbamide dihyd. 2004: Herbicides: 2,4-D, Fluazifop-P-butyl, Halosulfuron, Metribuzin, Norflurazon, Paraquat, Sethoxydim. Insecticides: Carbaryl, Chlorpyrifos, Diazinon, Dimethoate, Malathion, Oxamyl, Permethrin, Pyrethrins, Rotenone. Fungicides: Azoxystrobin, Chlorothalonil, Copper hydroxide, Sulfur. Other Chemicals: Dichloropropene, Metam-soduim.
3/ Refers to acres receiving one or more applications of a specific agricultural chemical. Note: Data may not multiply across due to rounding.

Asparagus: Agricultural Chemical Applications, Program States, 2002 & 2004 1/

Active Ingredient 2/	Area Applied 3/		Applications		Rate Per Application		Rate Per Crop Year		Total Applied	
	2002	2004	2002	2004	2002	2004	2002	2004	2002	2004
	Percent		Number		Pounds Per Acre				1,000 Pounds	
Herbicides										
2, 4-D	-	6	-	1.1	-	1.05	-	1.16	-	3.7
Dicamba	4	2	1.2	1.2	0.31	0.35	0.38	0.43	1.0	0.5
Diuron	48	51	1.5	1.5	1.36	1.30	2.09	1.91	70.7	54.8
Fluazifop-P-butyl	-	2	-	1.0	-	0.10	-	0.10	-	0.1
Glyphosate	32	38	1.3	1.5	0.74	0.85	1.01	1.25	22.7	26.6
Halosulfuron	*	-	1.0	-	0.04	-	0.04	-	4/	-
Linuron	8	15	1.3	1.5	0.77	0.78	1.01	1.14	5.7	9.8
Metribuzin	33	34	1.5	1.5	0.58	0.63	0.89	0.94	20.8	17.7
Norflurazon	3	1	1.0	1.4	0.85	0.76	0.88	1.07	1.8	0.3
Paraquat	12	10	1.1	1.2	0.55	0.58	0.64	0.68	5.6	3.9
Simazine	1	-	1.0	-	1.76	-	1.76	-	1.3	-
S-Metolachlor	-	2	-	1.2	-	1.19	-	1.42	-	1.7
Terbacil	*	1	1.2	1.3	0.43	0.27	0.52	0.35	0.3	0.2
Trifluralin	18	19	1.0	1.0	1.13	1.21	1.19	1.23	14.9	13.2
Insecticides										
Carbaryl	28	38	2.6	2.4	0.71	0.83	1.88	2.02	37.2	43.3
Chlorpyrifos	21	21	1.2	1.1	0.93	0.94	1.15	1.00	17.1	11.9
Dimethoate	2	-	1.0	-	0.50	-	0.54	-	0.7	-
Disulfoton	46	31	1.3	1.3	0.99	1.02	1.32	1.32	43.3	23.5
Malathion	3	3	1.0	1.0	0.99	0.97	1.04	0.97	2.2	1.5
Permethrin	19	15	2.0	2.2	0.09	0.09	0.18	0.19	2.4	1.6
Fungicides										
Chlorothalonil	15	17	2.9	2.5	1.41	1.28	4.08	3.14	43.2	29.7
Mancozeb	-	21	-	1.7	-	1.43	-	2.48	-	29.4
Sulfur	2	2	2.1	2.3	6.88	1.86	14.54	4.24	19.3	5.8
Tebuconazole	4	-	1.8	-	0.09	-	0.17	-	0.4	-

** Applied on less than one percent of acres. 1/ Planted acres in 2002 were 70,500 acres and 2004 planted acres were 56,500, respectively. States included in 2002 were CA, MI, & WA, and in 2004 the states were CA, MI, & WA. 2/ Insufficient reports to publish data for the following agricultural chemicals: 2002: Herbicides: 2, 4-D, 2, 4-D, Dimeth. salt, Bromacil, Clopyralid, Dicamba, Sodium Salt, Ethalfluralin, Fluazifop-P-butyl, Napropamide, Picloram, Quizalofop-ethyl, S-Metolachlor, Sethoxydim, Sulfosate. Insecticides: Bt (Bacillus thur.), Diazinon, Esfenvalerate, Methomyl, Phosphamidon, Pyrethrins, Rotenone. Fungicides: Mancozeb, Mefenoxam, Metiram, Myclobutanil. Other Chemicals: Dichloropropene, Monocarbamide dihyd. 2004: Herbicides: 2,4-D, Dimeth. salt, 2,4-D Triisopropan., Acetic acid (2,4-D), Alachlor, Dicamba, Dimet. salt, Glyphosate diam. salt, Halosulfuron Sethoxydim, Sulfentrazone. Insecticides: Abamectin, Azadirachtin, Azinphos-methyl, Diazinon, Dimethoate, Esfenvalerate, Methomyl, Oxamyl, Pyrethrins, Rotenone. Fungicides: Azoxystrobin, Copper hydroxide, Mefenoxam, Myclobutanil, Tebuconazole. Other Chemicals: Cytokinins, Dichloropropene, Metam-sodium.*
3/ Refers to acres receiving one or more applications of a specific agricultural chemical. Note: Data may not multiply across due to rounding.